

## Remarks

### 1. Summary of the office action

In the office action mailed August 4, 2009, (i) the Examiner rejected claims 1, 9, 10, 12-14, 18, 22, 23, 27-29, 32, 35, 40, 41, 47, 48, and 56 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,208,247 B1 (Agre) in view of U.S. Patent No. 6,014,406 (Shida), (ii) the Examiner rejected claims 2-4, 11, and 45 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and U.S. Patent No. 5,420,825 (Fischer), (iii) the Examiner rejected claim 16 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, *A Self Organizing Wireless Sensor Network* (Sohrabi), and U.S. Patent No. 6,028,857 (Poor), (iv) the Examiner rejected claims 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and U.S. Patent No. 6,615,088 B1 (Myer), (v) the Examiner rejected claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and U.S. Patent No. 5,742,829 (Davis), (vi) the Examiner rejected claim 30 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and U.S. Patent No. 6,233,610 B1 (Hayball), (vii) the Examiner rejected claim 31 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, Hayball, and Sohrabi, (viii) the Examiner rejected claim 33 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and U.S. Patent No. 6,414,955 B1 (Clare), (ix) the Examiner rejected claims 34 and 36-38 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and U.S. Patent No. 6,236,365 B1 (LeBlanc), (x) the Examiner rejected claims 43 and 46 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and U.S. Patent No. 6,809,653 B1 (Mann), (xi) the Examiner rejected claim 49 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and U.S. Patent No. 5,203,199 (Henderson), and (xii) the Examiner stated that claims 50-53 and 57-60 are allowed.

## **2. Claim amendments and status of the claims**

Applicant has amended claims 1, 23, 30, and 59, and added new claims 63-65. Claims 1-4, 9-14, 16, 18, 20-24, 27-38, 40, 41, 43, 45-53, 56-60, and 63-65 are pending. Of the pending claims, claims 1 and 50 are independent, and claims 50-53 and 57-60 are allowed.

Support for the amendment to claim 1 is located in the specification, for example, at page 55, lines 11-17, page 64, lines 12-21, and page 68, lines 9-16.

Support for new claim 63 is located in the specification, for example, at page 108, lines 3-5, and claim 11.

Support for new claim 64 is located in the specification, for example, at page 46, lines 19-24, page 64, line 22 to page 65, line 5, and Figure 30

Support for new claim 65 is located in the specification, for example, at page 141, lines 4-6, and claims 13 and 14.

## **3. Response to the claim rejections**

### **a. Claims 1, 9, 10, 12-14, 18, 22, 23, 27-29, 32, 35, 40, 41, 47, 48, and 56**

The Examiner rejected claims 1, 9, 10, 12-14, 18, 22, 23, 27-29, 32, 35, 40, 41, 47, 48, and 56 under 35 U.S.C. § 103(a) as being unpatentable over Agre and Shida. Of these claims, claim 1 is independent. Applicant submits that claim 1, as amended, patentably distinguishes over Agre and Shida.

At a minimum, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, *wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections*, and *wherein*

*the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections*, as recited in claim 1, as amended.

In rejecting claim 1, the Examiner stated that Agre does not explicitly disclose a multiple-mode radio frequency modem operable in both a master mode and a slave mode. The Examiner then cited to Shida for disclosing a multiple-mode radio frequency modem that is operable in both a master mode and a slave mode. See, office action, paragraph bridging pages 4 and 5.

Applicant has found no disclosure in Shida regarding the number of connections of a sensor node to neighbor node compared to the number of connections of each neighbor node has to its own neighbor node.

Even if it is assumed, for the sake of argument, that a person having ordinary skill in the art at the time of Applicant's invention would have modified Agre with Shida, Applicant submits that Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, *wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections*, and *wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections*, as recited in claim 1, as amended.

Because Agre and Shida do not reasonably lead to each and every limitation of claim 1, Agre and Shida do not render claim 1 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claim 1 is in condition for allowance.

Further, since each of claims 9, 10, 12-14, 18, 22, 23, 27-29, 32, 35, 40, 41, 47, 48, and 56 depends directly or ultimately from claim 1, each of these claims necessarily includes each and every limitation recited in claim 1. Without conceding the Examiner's assertions regarding claims 9, 10, 12-14, 18, 22, 23, 27-29, 32, 35, 40, 41, 47, 48, and 56, Applicant submits that Agre and Shida do not render claims 9, 10, 12-14, 18, 22, 23, 27-29, 32, 35, 40, 41, 47, 48, and 56 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claims 9, 10, 12-14, 18, 22, 23, 27-29, 32, 35, 40, 41, 47, 48, and 56 are in condition for allowance.

**b. Claims 2-4, 11, and 45**

The Examiner rejected dependent claims 2-4, 11, and 45 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and Fischer. Since each of claims 2-4, 11, and 45 depends from claim 1, each of claims 2-4, 11, and 45 necessarily includes each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim 1, as amended. Applicant submits that Fischer fails to make up for this deficiency of Agre and Shida.

Since Agre, Shida, and Fischer do not reasonably lead to each and every limitation of claims 2-4, 11, and 45, without conceding the Examiner's assertions regarding claims 2-4, 11,

and 45, Applicant submits that Agre, Shida, and Fischer do not render claims 2-4, 11, and 45 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claims 2-4, 11, and 45 are in condition for allowance.

**c. Claim 16**

The Examiner rejected claim 16 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, Sohrabi, and Poor. Since claim 16 ultimately depends from claim 1, claim 16 necessarily includes each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim 1, as amended. Applicant submits that Sohrabi, and Poor fail to make up for this deficiency of Agre and Shida.

Since Agre, Shida, Sohrabi, and Poor do not reasonably lead to each and every limitation of claim 16, without conceding the Examiner's assertions regarding claim 16, Applicant submits that Agre, Shida, Sohrabi, and Poor do not render claim 16 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claim 16 is in condition for allowance.

**d. Claims 20 and 21**

The Examiner rejected claims 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and Myer. Since each of claims 20 and 21 ultimately depends from claim 1,

each of claims 20 and 21 necessarily includes each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim 1, as amended. Applicant submits that Myer fails to make up for this deficiency of Agre and Shida.

Since Agre, Shida, and Myer do not reasonably lead to each and every limitation of claims 20 and 21, without conceding the Examiner's assertions regarding claims 20 and 21, Applicant submits that Agre, Shida, and Myer do not render claims 20 and 21 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claims 20 and 21 are in condition for allowance.

**e. Claim 24**

The Examiner rejected claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and Davis. Since claim 24 ultimately depends from claim 1, claim 24 necessarily includes each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the

neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim 1, as amended. Applicant submits that Davis fails to make up for this deficiency of Agre and Shida.

Since Agre, Shida, and Davis do not reasonably lead to each and every limitation of claim 24, without conceding the Examiner's assertions regarding claim 24, Applicant submits that Agre, Shida, and Davis do not render claim 24 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claim 24 is in condition for allowance.

**f. Claim 30**

The Examiner rejected claim 30 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and Hayball. Since claim 30 ultimately depends from claim 1, claim 30 necessarily includes each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim 1, as amended. Applicant submits that Hayball fails to make up for this deficiency of Agre and Shida.

Since Agre, Shida, and Hayball do not reasonably lead to each and every limitation of claim 30, without conceding the Examiner's assertions regarding claim 30, Applicant submits that Agre, Shida, and Hayball do not render claim 30 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claim 30 is in condition for allowance.

**g. Claim 31**

The Examiner rejected claim 31 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, Hayball, and Sohrabi. Since claim 31 ultimately depends from claim 1, claim 31 necessarily includes each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim 1, as amended. Applicant submits that Hayball and Sohrabi fail to make up for this deficiency of Agre and Shida.

Since Agre, Shida, Hayball, and Sohrabi do not reasonably lead to each and every limitation of claim 31, without conceding the Examiner's assertions regarding claim 31, Applicant submits that Agre, Shida, Hayball, and Sohrabi do not render claim 31 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claim 31 is in condition for allowance.

**h. Claim 33**

The Examiner rejected claim 33 under 35 U.S.C. § 103(a) as being unpatentable over



Agre, Shida, and Clare. Since claim 33 ultimately depends from claim 1, claim 33 necessarily includes each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim 1, as amended. Applicant submits that Clare fails to make up for this deficiency of Agre and Shida.

Since Agre, Shida, and Clare do not reasonably lead to each and every limitation of claim 33, without conceding the Examiner's assertions regarding claim 33, Applicant submits that Agre, Shida, and Clare do not render claim 33 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claim 33 is in condition for allowance.

**i. Claims 34 and 36-38**

The Examiner rejected claims 34 and 36-38 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and LeBlanc. Since each of claims 34 and 36-38 ultimately depends from claim 1, each of claims 34 and 36-38 necessarily includes each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor

nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim 1, as amended. Applicant submits that LeBlanc fails to make up for this deficiency of Agre and Shida.

Since Agre, Shida, and LeBlanc do not reasonably lead to each and every limitation of claims 34 and 36-38, without conceding the Examiner's assertions regarding claims 34 and 36-38, Applicant submits that Agre, Shida, and LeBlanc do not render claims 34 and 36-38 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claims 34 and 36-38 are in condition for allowance.

**j. Claims 43 and 46**

The Examiner rejected claims 43 and 46 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and Mann. Since claims 43 and 46 depends from claim 1, claims 43 and 46 necessarily include each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim

1, as amended. Applicant submits that Mann fails to make up for this deficiency of Agre and Shida.

Since Agre, Shida, and Mann do not reasonably lead to each and every limitation of claims 43 and 46, without conceding the Examiner's assertions regarding claims 43 and 46, Applicant submits that Agre, Shida, and Mann do not render claims 43 and 46 obvious under 35 U.S.C. § 103(a). Therefore, Applicant submits that claims 43 and 46 are in condition for allowance.

**k. Claim 49**

The Examiner rejected claim 49 under 35 U.S.C. § 103(a) as being unpatentable over Agre, Shida, and Henderson. Since claim 49 depends from claim 1, claim 49 necessarily includes each and every limitation recited in claim 1.

As stated above, Agre and Shida do not reasonably lead to a multiple-mode radio frequency modem operable in both a master mode and a slave mode, wherein the modem operates in the master mode when the sensor node has a number of connections to neighbor nodes of the sensor node that exceeds a respective number of connections that each of the neighbor nodes of the sensor node has to its own neighbor nodes by a threshold number of connections, and wherein the modem operates in the slave mode when a neighbor node of the sensor node has a number of neighbor node connections that exceeds the number of connections to neighbor nodes of the sensor node by the threshold number of connections, as recited in claim 1, as amended. Applicant submits that Henderson fails to make up for this deficiency of Agre and Shida.

Since Agre, Shida, and Henderson do not reasonably lead to each and every limitation of claim 49, without conceding the Examiner's assertions regarding claim 49, Applicant submits that Agre, Shida, and Henderson do not render claim 49 obvious under 35 U.S.C. § 103(a).

Therefore, Applicant submits that claim 49 is in condition for allowance.

#### 4. New claims

Applicant has added new dependent claims 63-65. Each of these claims is allowable for at least the reason that each of these claims depends from allowable claim 1.

Claim 63 recites “wherein the at least one sensor comprises at least one bi-static sensor.” In rejecting claim 11, the Examiner stated that Agre, Shida, and Fischer teaches that the at least one sensor comprises at least one sensor selected from the group consisting of passive and active sensors [Fischer: Column 1, Lines 49-52], wherein the passive and active sensors include seismic sensors, acoustic sensors, optical sensors, infrared sensors, magnetic sensors, thermal sensors, accelerometers, and *bi-static sensors* [Agre: Column 3, Lines 14-20]. *See*, office action, page 11, emphasis added. Applicant submits that the portions of Agre and Fischer cited in the rejection of claim 11, alone or in combination with Shida and the other portions of Agre and Fischer, do not disclose or suggest wherein the at least one sensor comprises at least one bi-static sensor, as recited in claim 63.

Claim 65 recites “wherein the sensor node is coupled to a package, and wherein the at least one sensor is operable to sense opening and closing of the package.” In rejecting claims 13 and 14, the Examiner stated that Agre and Shida teach that the sensor node is coupled to at least one item selected from the group consisting of ... *packages* ..., and Agre and Shida teaches that the at least one sensor is operable to receive at least one signal type selected from the group consisting of ... *package opening and closing*. *See*, office action, page 6, emphasis added. Applicant submits that Agre and Shida do not disclose or suggest wherein the sensor node is coupled to a package, and wherein the at least one sensor is operable to sense opening and closing of the package, as recited in claim 65.

## 5. Conclusion

Applicant believes that all of the pending claims have been addressed in this response. However, failure to address a specific rejection or assertion made by the Examiner does not signify that Applicant agrees with or concedes that rejection or assertion.

For the foregoing reasons, Applicant submits that claims 1-4, 9-14, 16, 18, 20-24, 27-38, 40, 41, 43, and 45-53, 56-60, and 63-65 are in condition for allowance. Therefore, Applicant respectfully requests favorable reconsideration and allowance of all the pending claims.

Respectfully submitted,

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